

Claims

1. An image input system comprising a solid state image pickup device and a preprocessor performing correlated double sampling amplification on an output signal of the solid state image pickup device and outputting a video signal,

wherein the preprocessor includes a correlated double sampling amplifier outputting signal information corresponding to a difference voltage between a black level in a feedthrough period of the solid state image pickup device and a signal level in a charge signal output period; and offset cancelling means for applying an offset cancelling voltage for cancelling an offset voltage corresponding to the difference voltage between the black level in the feedthrough period of the solid state image pickup device in the state where the solid state image pickup device is optically interrupted and the signal level in the charge signal output period to an input terminal of the correlated double sampling amplifier, and the correlated double sampling amplifier performs cancellation between the offset voltage and the offset cancelling voltage as signal components of polarities opposite to each other.

2. An image input system according to claim 1, further comprising a data processor receiving the video signal outputted from the preprocessor and performing an image signal

process.

3. An image input system according to claim 1 or 2, wherein the solid state image pickup device has a GCD type outputting unit, and the preprocessor further comprises: a gain control circuit adjusting the gain of an output signal of the correlated double sampling amplifier; an A/D converter converting an output of the gain control circuit, which is an analog signal to a digital signal and outputting the digital signal; and correcting means for receiving an output signal of the A/D converter and performing a feedback control to set an output signal obtained from the A/D converter to a constant level on the basis of a difference voltage between the black level in the feedthrough period of the solid state image pickup device in the state where the solid state image pickup device is optically interrupted and the signal level in the charge signal output period.

4. An image input system according to claim 3, wherein the correcting means comprises: a feedback clamping voltage generating circuit detecting the level of an output signal of the A/D converter, which corresponds to a difference voltage between the black level in the feedthrough period in the state where the solid state image pickup device is optically interrupted and the signal level in the charge signal output period and generating a feedback clamping voltage on the basis

of the output signal level detected; and first switching means for selectively applying the generated feedback clamping voltage to an output of the correlated double sampling amplifier.

5. An image input system according to claim 3 or 4, wherein the correlated double sampling amplifier comprises: a first sampling circuit generating a difference voltage between the black level in the feedthrough period of the solid state image pickup device and the signal level in the charge signal output period; a second sampling circuit generating a reference voltage for the difference voltage of the first sampling circuit; and a differential amplifier differential amplifying the voltages generated by the first and second sampling circuit, and

the offset cancelling means comprises: a voltage detecting circuit detecting a signal outputted from the feedback clamping voltage generating circuit; offset cancelling voltage generating means for generating an offset cancelling voltage by a difference voltage between the voltage signal detected by the voltage detecting circuit and a reference voltage signal; and second switching means for selectively applying the generated offset cancelling voltage to the reference voltage of the second sampling circuit.

6. An image input system according to claim 3 or 4, wherein the correlated double sampling amplifier comprises: a first sampling circuit generating a difference voltage between the black level in the feedthrough period of the solid state image pickup device and the signal level in the charge signal output period; a second sampling circuit generating a reference voltage for the difference voltage of the first sampling circuit; and a differential amplifier differential amplifying the voltages generated by the first and second sampling circuits, and

the offset cancelling means comprises: means for receiving control information for designating the level of an offset cancelling voltage from the outside; offset cancelling voltage generating means for generating an offset cancelling voltage on the basis of the received control information; and second switching means for selectively adding the generated offset cancelling voltage to the reference voltage of the second sampling circuit.

7. An image input system according to claim 3 or 4, wherein the correlated double sampling amplifier comprises: a first sampling circuit generating a difference voltage between the black level in the feedthrough period of the solid state image pickup device and the signal level in the charge signal output period; a second sampling circuit generating a reference

voltage for the difference voltage of the first sampling circuit; and a differential amplifier differential amplifying the voltages generated by the first and second sampling circuits, and

the offset cancelling means comprises: an external terminal to which the offset cancelling voltage is applied; a buffer amplifier whose input is coupled to the external terminal; and second switching means for selectively adding the offset cancelling voltage outputted from the buffer amplifier to the reference voltage of the second sampling circuit.

8. An image input system according to claim 6, wherein the preprocessor further comprises an external monitor terminal which enables a feedback clamping voltage generated by the correcting means to be monitored from the outside.